

Testing the Efficacy of an Online Integrated Treatment for Comorbid Alcohol Misuse and  
Emotional Problems

Ethics Approved December 18<sup>th</sup>, 2017

## Statistical Analysis Plan

**Power Analysis:** A recent meta-analysis showed that combined CBT/MI resulted in statistically significant reductions in alcohol use and depressive symptoms, with effect sizes being in the small range in both clinical and subclinical groups ( $g=.17-.27$ ). Data show relatively comparable effect sizes for online and in person interventions for alcohol misuse and depression. Therefore, a small effect size ( $g=.25$ ) is expected for group differences in alcohol use and emotional symptoms at posttreatment. Using G\*Power, the required sample size to detect a small effect size is  $N=398$  (with power rate set at .80 and  $\alpha = .05$ ).

**Statistical Plan:** Before hypothesis testing, we will run preliminary analyses (e.g., baseline differences, missing data analyses). We will also examine overall group differences in clinically meaningful variables (i.e., % below moderate cut-offs on the AUDIT, CES-D, and GAD-7 after treatment and at follow-up). Next, Generalized Estimating Equations (GEE) will be used to evaluate the main hypotheses that integrated treatment will result in the largest reductions in alcohol use, depression, and anxiety. GEE is a multilevel modeling technique that is preferable to repeated-measures ANOVA for pre/post analyses, as it will allow us to include all randomized participants in analyses. This results in less bias due to missing follow-up data. However, due to potential attrition problems, we also plan to conduct a sensitivity analysis. Primary and secondary outcomes will be tested sequentially in a mixed within- (repeated assessments) and between-subjects (treatment condition) design.